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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,008	08/22/2003	Sung-Jae Moon	PNK-0048	8963
23413 7590 11/26/2007 CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002			EXAMINER NGUYEN, HOAN C	
			ART UNIT 2871	PAPER NUMBER
			MAIL DATE 11/26/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/646,008

Applicant(s)

MOON, SUNG-JAE

Examiner

HOAN C. NGUYEN

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-10, 13-15 and 18-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-10, 13-15 and 18-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/05/2007 has been entered.

Claim 6, 16-17 and 23-25 are cancelled. New claim 26 is added.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 1 and 14 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for transmitting signals to gate lines 121 and data lines 171, does not reasonably provide enablement for testing. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to test the invention commensurate in scope with these claims. The shorting bar 320 connects to all the first and second driving signal wires 521/522 and

data leads 520; therefore the testing signals with different voltages transmitting through the first and second driving signal wires 521/522 and data leads 520 from outside will be short-circuit with a same electrical potential on the shorting bar and cannot be able to test the LCD device.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 20 cites "the first driving signal wire transmitted a gate-off voltage or a ground voltage" and claim 1 cites "the first driving signal wire connected to the first display signal wire (gate lines 121). Therefore, the first driving signal wire transmitted or supplied a gate-off voltage or a ground voltage to the first display signal wire (gate lines 121). However, Remarks discloses (page 7 lines 3-5) "the gate-off voltage and the ground voltage supplied to gate driving IC 440 (not supply to gate lines 121).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 7-10, 13, 15, 18-19 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagata et al. (US006172410B1).

Nagata et al. teach (Fig. 17) a liquid crystal display device comprising:

Claim 1:

- a liquid crystal panel including
  - a first display signal wire having a plurality of a first display signal lines 2,
  - a second signal wire having a plurality of a second display signal lines 3 that cross the first display signal lines,
  - a plurality of switching elements (inherence for active matrix display) each of which is connected to both of one of the first display signal lines and one of the second display signal lines, and
  - pixel electrodes inherently connected to the switching elements;
- a first driving signal wire 153c transmitting driving signals from an outside of the display panel to the first display signal lines 2, wherein the first driving signal wire is separated from the first and second display signal wires, the switching elements (inherence for active matrix display), and the pixel electrodes, and includes a first pad connected thereto at its near end;
- a plurality of first connecting lines disposed between the first driving signal wire and a part of the first display signal wire 2, and connected to at least one of the first driving signal wire and the part of the first display signal wire.

Claim 7:

- a second driving signal wire transmitting driving signals 153a for the first display signal lines 2, wherein the second driving signal wire is separated from the first and second display signal wires, the switching elements, and the pixel electrodes, and includes a second pad connected thereto at its near end.

Claim 26:

- a second driving signal wire 153a transmitting driving signals from an outside of the display panel to the first display signal lines 2, wherein the second driving signal wire 153a is separated from the first and second display signal wires, the switching elements, and the pixel electrodes, and includes a second pad connected thereto at its near end.

wherein

Claim 8:

- a distance between the first driving signal wire 153b and the first display signal wire 3 is smaller than a distance between the second driving signal wire 153a and the first display signal wire 2.

Claim 9:

- a plurality of second connecting lines disposed between the second driving signal wire 153a and at least another part of the first display signal wire 2, connected to at least one of the second driving signal wire 153a and the another part of the first display signal wire 2, wherein the second connected lines are electrically disconnected from the another part of the first display signal wire 2.

Claim 10:

- the first and second connecting lines are alternately disposed.

Claim 13:

- the first connecting line is electrically connected to the first display signal wire 2  
and the first driving signal wire

Claim 15:

- the first driving signal wire further comprises a plurality of second pads  
connected at connections thereto at its intermediate portion.

Claim 18:

- the first driving signal wire extends to an edge of the panel.

Claim 19:

- the first display signal wire 153b transmits gate signals for inherently turning on  
and off the switching elements, and the second display signal wire transmits  
data signals for the pixel electrodes applied through the switching elements.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5, 7-10, 13, 15, 18-19, 20-22 and 26 are rejected under 35

U.S.C. 102(e) as being anticipated by Kim et al. (US6636288B2).

Kim et al. teach (Fig. 1) a liquid crystal display device comprising:

Claim 1:

- a liquid crystal panel including
  - a first display signal wire having a plurality of a first display signal lines 21,
  - a second signal wire having a plurality of a second display signal lines 61 that cross the first display signal lines,
  - a plurality of switching elements TFT each of which is connected to both of one of the first display signal lines and one of the second display signal lines, and
  - pixel electrodes PE inherently connected to the switching elements;
- a first driving signal wire 134 transmitting driving signals from an outside of the display panel to the first display signal lines 21, wherein the first driving signal wire is separated from the first and second display signal wires, the switching elements, and the pixel electrodes, and includes a first pad C4 connected thereto at its near end;
- a plurality of first connecting lines disposed between the first driving signal wire and a part of the first display signal wire 21, and connected to at least one of the first driving signal wire and the part of the first display signal wire.

Claim 7:

- a second driving signal wire transmitting driving signals 134 for the first display signal lines 21, wherein the second driving signal wire is separated from the first and second display signal wires, the switching elements, and the pixel electrodes, and includes a second pad connected thereto at its near end.

Claim 26:



- a second driving signal wire 134 transmitting driving signals from an outside of the display panel to the first display signal lines 21, wherein the second driving signal wire 134 is separated from the first and second display signal wires, the switching elements, and the pixel electrodes, and includes a second pad connected thereto at its near end.

Wherein

Claims 2-4:

- a plurality of drivers respectively connected to the first driving signal wire, wherein each of the drivers is in the form of a chip and each of the drivers is formed on the liquid crystal panel.

Claim 5:

- each of the drivers is directly connected to the first driving signal wire.

Claim 8:

- a distance between the first driving signal wire 134 (inside) and the first display signal wire 21 is smaller than a distance between the second driving signal wire 134 (outside) and the first display signal wire 21.

Claim 9:

- a plurality of second connecting lines disposed between the second driving signal wire 134 and at least another part of the first display signal wire 21, connected to at least one of the second driving signal wire 134 and the another part of the first display signal wire 21, wherein the second connected lines are electrically disconnected from the another part of the first display signal wire 21.

Claim 10:

- the first and second connecting lines are alternately disposed.

Claim 13:

- the first connecting line is electrically connected to the first display signal wire 21  
and the first driving signal wire

Claim 15:

- the first driving signal wire further comprises a plurality of second pads  
connected at connections thereto at its intermediate portion.

Claim 18:

- the first driving signal wire extends to an edge of the panel.

Claim 19:

- the first display signal wire 134 transmits gate signals for inherently turning on  
and off the switching elements, and the second display signal wire transmits  
data signals for the pixel electrodes applied through the switching elements.

Claim 20:

- the first display signal wire 134 inherently transmits a ground voltage or power  
supply to IC 140.

Claims 21-22:

- the first display signal wire transmits data signals for the pixel electrodes, and the  
second display signal wire controls inherently turning on and off of the switching  
elements such that the transmission of the data signals to the pixel electrodes is

controlled, wherein the first driving signal wire transmits gray voltages, a clock signal, or a driving voltage to the drivers.

***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOAN C. NGUYEN whose telephone number is (571) 272-2296. The examiner can normally be reached on MONDAY-THURSDAY:8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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